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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,414	01/27/2004	Stephen W. Foss	FOS 6080 P39 DIV4	2179
26486	7590	07/13/2005	EXAMINER	
PERKINS, SMITH & COHEN LLP ONE BEACON STREET 30TH FLOOR BOSTON, MA 02108			BOYD, JENNIFER A	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/765,414

Applicant(s)

FOSS, STEPHEN W.

Examiner

Jennifer A. Boyd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/4/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed April 29, 2005, have been entered and have been carefully considered. Claim 1 – 35 are amended and claims 1 – 35 are pending. In view of Applicant's arguments, all of the Double Patenting rejections have been withdrawn as detailed in paragraphs 1- 8 of the Office Action dated November 4, 2004. In view of Applicant's amendment requiring that the anti-microbial/anti-fungal inorganic additive is zeolitic, the Examiner withdraws the previously set forth rejection as detailed in the Office Action dated November 4, 2004. The invention as currently claimed is not patentable for reasons herein below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 1 – 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ando et al. (US 5,064,599) in view of Rock (US 6,194,332).

As to claim 1, Ando is directed to a process for making an antibacterial fiber article (Title). Zeolite particles retaining antibacterial metal ion, such as Ag, Cu or Zn ion, at ion-exchangable sites of the zeolite are included in a low-melting component of conjugated fibers which comprise a low melting component and high melting component (Abstract). The sheath/core fiber cross section includes a range from 30:70 to 70:30 (Claim 4). The low melting

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component contains includes .06-5 weight percent of an anti-bacterial metal ion (Claim 5). With regard to the limitation pertaining to the thickness of the sheath in microns being approximately two times the nominal particle size in microns of the additive, Ando et al., teaches employing fine particles. Specifically, Ando et al. teaches in the case where the fiber diameter is large, the particle size may be from several microns to several hundred microns. As such, based on such a disclosure, it is the position of the Examiner that said thickness of the sheath and particle size limitations would be met if fine particles were employed in fibers having larger diameters. Applicant is invited to evidence otherwise.

As to claim 12, Ando teaches sheath-core filaments wherein the core comprises a high melting component and the sheath comprises a low melting component (column 3, lines 5 – 15). The ratio of the area of the high-melting component and the low-melting component is 30:70 – 70:30 (column 3, lines 15 – 25). The sheath may comprise zeolite particles retaining antibacterial metal ion, such as Ag, Cu or Zn ion, at ion-exchangeable sites of the zeolite (Abstract). Ando teaches that the sheath-core filament can comprise a combination of polyester/polyamide (column 3, lines 25 – 35). Specifically, the high melting component can comprise polyethylene terephthalate and the low melting component can comprise nylon 66 (column 3, lines 25 – 65). According to US 5,617,903, nylon 6,6 is known to be very good in hydrolytic stability (column 1, lines 45 – 55); the Examiner equates the nylon 6,6 sheath to Applicant's "sheath of hydrolysis resistant polymer". Additionally, it is known in the art that polyethylene terephthalate has high tenacity; the Examiner equates the polyethylene terephthalate core to Applicant's "core of a high tenacity polymer". Ando notes that the fibers may contain additional components such as

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catalysts, stabilizers, delustering agents, optical whitening agents, organic or inorganic pigments, inorganic fillers and various plasticizers (column 4, lines 14 – 19).

As to claims 4 and 15, Ando teaches that functional particles also may be included such as activated carbon for deodorization and adsorption (column 9, lines 1 – 5).

Ando fails to teach incorporating the sheath-core polyester fiber including an antimicrobial agent into a multilayer article.

Rock et al. is directed to an anti-microbial enhanced knit fabric (Title). Rock teaches a fabric comprising a first and second fabric layer wherein the second fabric layer is exclusively blended with treated synthetic fibers having anti-microbial properties (Abstract). Rock teaches that the second layer can comprise polyester (column 3, lines 30 – 35) and the polyester fibers can be coated with silver or copper sulfide to create an anti-microbial fabric layer (column 4, lines 5 – 15).

It would have been obvious to use the sheath-core polyester fiber including an antimicrobial agent as suggested by Ando as the anti-microbial fiber in the anti-microbial fabric layer of Rock motivated by the desire to create an anti-microbial composite fabric.

As to claims 2 – 3, 5 – 11, 13 – 14 and 16 – 22, Ando in view of Rock teaches that the fiber of the invention can be used hot welded nonwoven fabrics having excellent antibacterial action without diminishing the intrinsic antibacterial properties of the metal ions (column 9, lines 1 – 15). It should be noted that the Examiner has given minimal patentable weight to the

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limitations of claims 2 – 3, 5 – 11, 13 – 14 and 16 – 22 because it has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

4. Claims 23 – 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emi et al. (US 4,784,909) in view of Rock (US 6,194,332).

Emi is directed to anti-fungus, deodorant fiber material (Title).

As to claim 23, 26 and 34, Emi teaches a material comprising synthetic polymer fibers, a deodorant material in an amount of 8% by weight or more as required by claim 26, and an anti-fungus material in the amount of 1% by weight or more and consisting of fine copper particles (Abstract). The fiber material may contain additional fibers such as cotton (column 7, lines 20 – 25) as required by claim 34. Emi notes that the material can be in the form of woven, knitted or a non-woven fabric (column 7, lines 15 – 19). It is the position of the Examiner that the thermoplastic fibers must be heated to integrate the fibers together (see columns 17 and 18). Furthermore, it should be noted that “heating to its melting temperature” is given minimal patentable weight because the method of forming an article is germane to the issue of patentability of the article itself. The burden is upon the Applicant to show unobvious differences. Emi notes that the material has excellent resistance to washing (column 7, lines 29 – 54), as required by Applicant.

Emi fails to teach incorporating the fibers into a multilayer article.

Rock et al. is directed to an anti-microbial enhanced knit fabric (Title). Rock teaches a fabric comprising a first and second fabric layer wherein the second fabric layer is exclusively blended with treated synthetic fibers having anti-microbial properties (Abstract). Rock teaches that the second layer can comprise polyester (column 3, lines 30 – 35) and the polyester fibers can be coated with silver or copper sulfide to create an anti-microbial fabric layer (column 4, lines 5 – 15).

It would have been obvious to use the sheath-core polyester fiber including an antimicrobial agent as suggested by Emi as the anti-microbial fiber in the anti-microbial fabric layer of Rock motivated by the desire to create an anti-microbial composite fabric.

As to claims 24 – 25 and 27 – 33, Emi in view of Rock teaches that the material can be used for various hygienic and medical material, various types of filter material, filling for bedding, waddings, felt material, carpet substrates, interior materials in buildings and cards, insoles of shoes, lining materials, mats for pets, deodorant materials for refrigerators, brassieres, girdles, body suits, pad materials and sleeping wear (column 7, lines 35 – 48). It should be noted that the Examiner has given minimal patentable weight to the limitations of claims 24 – 25 and 27 – 33 because it has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

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As to claim 35, Emi in view of Rock discloses the claimed invention but fails to disclose that the binder fiber is made of PETG. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a PETG binder fiber since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of design choice. *In re Leshin*, 125 USPQ 416. In the present invention, one would have been motivated to use PETG as the binder fiber motivated by the desire to create a material having good melt strength and toughness.

Response to Arguments

5. Applicant's arguments with respect to claims 1 – 35 have been considered but are moot in view of the new ground(s) of rejection.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer Boyd
July 9, 2005


Ula C. Ruddock*
Primary Examiner
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